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QSZ515D

Medium Speed Intelligent Dome PTZ

User's Manual

Rev 120110

Part 1 Performance Features

◇4.2"Vandalproof Pan/Tilt Dome Camera
◇1/3" SONY CCD + SONY DSP
◇540TVL
◇Super wide voltage board: 8-18V
◇High transparent vandal-proof dome cover
◇5-15mm F2.2 2.0MP auto focus lens
◇With RS485 remote control, With 128 preset points
◇360° Horizontal endless rotation, 90° vertical movement
◇A panoramic view
◇body rotates flexibly with less noise and wider view shooting
◇Memory function at accidental power-off (Settings saved)

Technical Specifications:

Model	PDS-320FZA
Image Sensor	1/3"SONY CCD
Digital Signal Pro	SONY DSP
Signal System	PAL / NTSC
Scanning System	2:1 Interlace
Scanning Frequen	NTSC:15.734KHZ , PAL:15.625KHZ
Sync. System	Internal
Horizontal System	540TVL
Effective Pixels (HxV)	PAL:795×596
	NTSC:811×508
Shuttle Speed	PAL=1/50 ~1/100,000 sec ; NTSC=1/60 ~1/100,000 sec
Mini Illumination	0.01 Lux
S/N Ratio	> 48dB (Auto Gain Off)
Gamma	0.45

Lens	1.3 Megapixel 5-15mm F2.2 2.0MP auto focus lens
White Balance	Auto
BLC	Open
Video Output	1.0V P-P,75Ω BNC
AGC	Auto
Power Voltage	Super Wide Voltage (8V~18V)
Input Current	DC12V+/_20% 50/60Hz, 1.2A above
Output Current	12V 800mA
Operating Temper	14℉ to 122℉ (-10℃ to 50℃) (relative humidity: up to 95%)
Storage Temp	-22℉ to 158℉ (-30℃ to 70℃)
Color	White
Dimensions(LXD)	5x5 in (125×125mm)
Weight	2.2 lbs (1KG) (without bracket and adapter)
Address Range	1-256

Module Index of Variable Speed Pan/Tilt/Zoom:

1. Horizontal scanning: 360°rotation
2. Horizontal speed: 0.5°—50°/s
3. The lowest speed at 0.5°/s, no vibrating images
3. Vertical scanning: >90°
4. Vertical speed: 0.5°—30°/s
5. 128 preset positions (PTZ and vari-focal lens included)
6. Speed of preset positions: 50°/s
7. PTZ scanning precision: ±0.5°
8. 3X zoom

Control Protocol:

PELCO“P”Protocol

PELCO“D”Protocol

Baud Rate: 1200b/2400b/4800b/9600b

Built-in Decoder

1. Full digital design, all data saved inside of the module with memory function in case of accidental power loss.
2. All in one integrated design, high reliability
3. 128 preset positions can be saved
4. 1-80 preset positions support auto cruise function, while 1 cruise route can save 8 preset positions, each position pauses 6 seconds.
5. Uses RS485 remote control interface
6. Thanks to its expanding function, any keyboard can operate the controls of this high speed dome.

Part 2 Functions & Operating Instructions

This part mainly describes the leading functions and common principles of the all in one intelligent dome camera. It does not refer to the specific operating methods. Different systematical platforms have different methods. In some cases, special requirements and operating methods would exist, subject to the product manual.

1. 1. Set CCTV encoding

The control board of the dome has a 10-DIP-switch, used to set address, communication and control protocols PELCO-D/P (refer to “DIP switch set”). Any command should agree with the targeted address, and cameras only response when address code is the same.

2. CCTV Camera Operation

2. Zoom control

User can adjust the image farther/nearer to get a panoramic view by controlling the keyboard buttons ZOOM- / ZOOM+. The speed dome supports both digital and optical vari-focus. Digital vari-focus can be set.

In the following cases, the camera’s target is unable to auto Focus:

1. The target is not in the center of the image;
2. When watching the farther or nearer objects, the objects are not clear;
3. The target is a strong light, like neon light, spot light etc;
4. The object moves to fast;

5. Large square of monotonous object, like a wall;
6. The object is too dark or vague;
7. The targeted picture is too small

3. 3. Surveillance function

a) Set & Transfer the preset points

The function of preset positions is, temporarily storing such location parameters as horizontal angle / inclination / lens' focus in a memory and transferring them whenever they're needed. User can quickly transfer the preset positions via the keyboard, remote or something else such as PC software. The speed dome supports 127 preset points.

b) Automatic Cruise

Automatic Cruise is an internal set function, which inserts the points and sets up the automatic cruise among preset positions by programming them beforehand in the cruise lists. The cruise order and pausing timing can be programmed and one cruise route can store 8 points and times.

c) Auto Scanning

Cameras can level scan back and forth among the left & right limits at the set speed via the keyboard and menu settings using the left and right limits setup beforehand.

d) Power-off Protection

When a planned or unplanned power-off happens, the camera will automatically preserve the movement state before the power-off. When the power returns, the camera will auto-recover the previous stored movement.

Part 3 Extended Function

This section describes the extended function and common principles of the all in one intelligent dome camera. Different systematical platforms have different methods. In some cases, special requirements & operational methods could exist, subject to systematical manufacturer's manual.

1. 1. Set the scanning

The speed dome can be set in two fixed locations and scan back and forth at the set speed. Set #126 for linear scanning. Set #xxx preset position, xxx is the scanning speed (1-50 adjustable), after that, move the rod, the image would move to the beginning locations. Set #127 as scanning beginning location, moves the image to the ending location and set #128 as the ending scan location.

Example 1 : Scan setting at the speed of 1s around.

Setting Method :

1. Set #126 preset position.
2. Set #30 as speed index.
3. Move the rod and adjust the image as the scanning one.
4. Set #127 as the beginning location.
5. Move the rod and adjust the image to the scanning ending location.
6. Set #128 as the ending location

Example 2 : Scan setting at the speed of 50s around.

Setting Method :

7. Set #126 preset position.
8. Set #50 as speed index.
9. Move the rod and adjust the image as the scanning one.
10. Set #127 as the beginning location.
11. Move the rod
12. Set #128 as the ending location

2. Transfer the cruise group

Transfer #101-102 preset point; relatively start #1-2 cruise groups. For example : Start #1 cruise group.

Method: Transfer #101 preset position.

3. Start the linear scanning

Transfer #128 preset position.

4. Start auto-scanning

Transfer #125 preset position or press auto-start button.
360° Auto-scanning back and forth. The speed is fixed internally.

Part 4 Appendix

1. 1. Clearing of fault

Problem	Possible reason	Solution
No movement a ge at power-on	1.Check the connection o C power input 2.Turn off power and c he transformer	1.Check the power connection, make sure th ket is well connected 2.Make sure the power ou working
Power-on sh mage, but the co r doesnot work	1. DIP switch setting is in 2.RS485 interface is not c ted or is not connecte ctly 3.There is a problem with S485 line	1. Refer to setup in ons, re-set the DIP switch 2.Check RS485 interface, sure the wires are well co ed and in the proper sh 3.Refer to the Appendix:
Blurred Image	Ball case is dirty	Clean the ball case

2. 2. Setting of DIP Switches

The internal black case has 8 DIP switches. 8,7,6,5,4,3,2,1 are for Addres s setting, while 10,9 are for Communication Baud Rate.

In the following table, tag “1” for DIP switch “ON”; tag “0” for DIP switch “off”.

a) Setting Baud Rate

Baud Rate	Switch # (SW2)		Baud Ra	Switch # (SW2)	
	BIT	10 9		BIT	10 9
2400bps		0 1	1200bps		1 1
4800bps		1 0	9600bps		0 0

b) b) Setting Address Code

In a system, decoder includes intelligent speed dome camera and common de coder. No repeating address codes exist. As you see in the table, “1” for “O N”, “0” for “OFF”

Address	Address Switch (8		Address	Address Switch (8
Code	1 2 3 4 5 6 7 8		Code	1 2 3 4 5 6 7 8
1	1 0 0 0 0 0 0 0		33	1 0 0 0 0 1 0 0
2	0 1 0 0 0 0 0 0		34	0 1 0 0 0 1 0 0
3	1 1 0 0 0 0 0 0		35	1 1 0 0 0 1 0 0
4	0 0 1 0 0 0 0 0		36	0 0 1 0 0 1 0 0
5	1 0 1 0 0 0 0 0		37	1 0 1 0 0 1 0 0
6	0 1 1 0 0 0 0 0		38	0 1 1 0 0 1 0 0
7	1 1 1 0 0 0 0 0		39	1 1 1 0 0 1 0 0
8	0 0 0 1 0 0 0 0		40	0 0 0 1 0 1 0 0
9	1 0 0 1 0 0 0 0		41	1 0 0 1 0 1 0 0
10	0 1 0 1 0 0 0 0		42	0 1 0 1 0 1 0 0
11	1 1 0 1 0 0 0 0		43	1 1 0 1 0 1 0 0
12	0 0 1 1 0 0 0 0		44	0 0 1 1 0 1 0 0
13	1 0 1 1 0 0 0 0		45	1 0 1 1 0 1 0 0
14	0 1 1 1 0 0 0 0		46	0 1 1 1 0 1 0 0
15	1 1 1 1 0 0 0 0		47	1 1 1 1 0 1 0 0
16	0 0 0 0 1 0 0 0		48	0 0 0 0 1 1 0 0
17	1 0 0 0 1 0 0 0		49	1 0 0 0 1 1 0 0
18	0 1 0 0 1 0 0 0		50	0 1 0 0 1 1 0 0
19	1 1 0 0 1 0 0 0		51	1 1 0 0 1 1 0 0
20	0 0 1 0 1 0 0 0		52	0 0 1 0 1 1 0 0
21	1 0 1 0 1 0 0 0		53	1 0 1 0 1 1 0 0
22	0 1 1 0 1 0 0 0		54	0 1 1 0 1 1 0 0
23	1 1 1 0 1 0 0 0		55	1 1 1 0 1 1 0 0
24	0 0 0 1 1 0 0 0		56	0 0 0 1 1 1 0 0
25	1 0 0 1 1 0 0 0		57	1 0 0 1 1 1 0 0
26	0 1 0 1 1 0 0 0		58	0 1 0 1 1 1 0 0
27	1 1 0 1 1 0 0 0		59	1 1 0 1 1 1 0 0
28	0 0 1 1 1 0 0 0		60	0 0 1 1 1 1 0 0
29	1 0 1 1 1 0 0 0		61	1 0 1 1 1 1 0 0
30	0 1 1 1 1 0 0 0		62	0 1 1 1 1 1 0 0
31	1 1 1 1 1 0 0 0		..	.....
32	0 0 0 0 0 1 0 0		255	1 1 1 1 1 1 1 1

Part 5 PELCO-D Protocol

Data Form :1 beginning position, 10 pieces for data, 1 ending position, invalid checking point

Baud Rate : 2400, 4800, 9600, 19200Bit/S

Command Form :

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
Synchronize	Address	Command 1	Command 2	Data 1	Data 2	Confirmation

1. All data in the Protocol as REX;
2. Synchronized Byte is 0FFH;
3. Address Code is the logical address number of cameras, Address Range : 01H -0FFH;

3. Form of Command Code as follows :

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Command Code1	0	0	0	Auto Scan	0	Iris Close	Iris Open	Focus Near
Command Code2	Focus	Zoom Wide	Zoom Tele	Down	Up	Left	Right	0

1. Command Code 1: BIT7, BIT6, BIT5, BIT3 is 0 without exception; (BIT4 is auto-scanning control points 1/0 : ON/OFF) BIT2 Iris smaller (1 valid); BIT1 Iris larger (1 valid); BIT0 focus nearer (1 valid)
2. Command Code 2: BIT7 focus farther (1 valid); BIT6 & BIT5 for the control of zoom, BIT6 far away from the object (1 valid), BIT5 near the object(1 valid); BIT4, BIT3, BIT2, BIT1 separately control the movement down, up, left, right (1 valid); BIT0 is 0 without exception.
3. Data Code 1 controls the horizontal direction of speed 00-3FH
4. Data Code 2 controls the vertical direction of speed 00-3FH
5. Confirmation Code index [(Byte 2 + Byte 3 + Byte 4 + Byte 5 + Byte 6) / 100H]
6. Confirmation Code = MOD [(Byte 2 + Byte 3 + Byte 4 + Byte5 + Byte 6) /100H]
7. Setting and Transferring of preset command:

(a) Set the command of preset positions

Byte 1	Byte 2	Byte 3	Byte4	Byte5	Byte 6	Byte 7
Synchronize	Address C	00H	03H	00H	Preset Po	Confirmat Code

(b) Transfer the command of preset positions

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
Synchronize	Address C	00H	07H	00H	Preset Po	Confirmatic Code

Preset Point # Range : 00 - FFH

1. Turning the command of auxiliary swiches on and off:

(a) Turn the command of auxiliary switches on

Byte 1	Byte 2	Byte 3	Byte4	Byte5	Byte 6	Byte 7
Synchronized	Address	00H	09H	00H	Auxiliary #	Confirma Code

(b) Turn the command of auxiliary switches off

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
Synchronize	Address C	00H	0BH	00H	Auxiliary S #	Confirmatic e

Auxiliary Switch # Range : 01 to 10

Product Features:

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◇540TVL
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Effective Pixels (HxV)	PAL:795×596
	NTSC:811×508
Shuttle Speed	PAL=1/50 ~1/100,000 sec ; NTSC=1/60 ~1/100,000 sec
Mini Illumination	0.01 Lux
S/N Ratio	> 48dB (Auto Gain Off)
Gamma	0.45
Lens	5-15mm F2.2 2.0MP auto focus lens
White Balance	Auto
BLC	Open
Video Output	1.0V P-P,75Ω
AGC	Auto
Power Voltage	Super Wide Voltage (8V~18V)
Current	800mA
Operating Temper	14℉ to 122℉ (-10 ~ 50℃) (humidity: up to 95%)
Color	White

SPECIFICATIONS

NAME : 4.2" Medium Speed Dome Intelligent Camera

Model : QSZ515D

Product features

1. Mini exquisite design with stable performance

4.2" DOME cover

1.3 mega pixel lens

5-15mm F2.2 2.0MP auto focus lens

Auto Focus; with the function of preset positions in lens

Compatible with PelcoD & PelcoP Protocols

6. 128 preset positions, 2 auto cruise routes

7. The lowest speed at 0.5°/s, no vibrating images
8. Built-in protective circuit for forced electricity and lightning
9. Easy installation

Module Index of Variable Speed Pan/Tilt/Zoom:

1. Horizontal scanning: 360°rotation
2. Horizontal speed: 0.5°—50°/s
3. Vertical scanning: >90°
4. Vertical speed: 0.5°—30°/s
5. 128 preset positions (PTZ and vari-focal lens included)
6. Speed of preset positions: 50°/s
7. PTZ scanning precision: ±0.5°
8. 3X zoom

Electric Index:

1. Input Voltage: DC12V+/_20% 50/60Hz
2. Input power : 1.2A above

Environment Index:

1. Operational Temperature: -10～45℃
2. Preserve Temperature: -30～70℃
3. Humidity: Relative humidity 0%～90%, no congealing

Control Protocol (standard solution):

PELCO“P”Protocol

PELCO“D”Protocol

Baud Rate: 1200b/2400b/4800b/9600b